

USSR

UDC 621.372.823

DIKAREV, V. A., KRAVCHENKO, V. F.

"Scattering with Respect to Natural Oscillations in the Cross Section of a Cylindrical Wave Guide"

Radiotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 15, pp 65-72 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B106)

Translation: The problem of existence of the complete system of natural oscillations of a cylindrical wave guide is solved in the strict statement.

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USSR

UDC: 519.2

DIKAREV, V. Ye., SHISHONOK, N. A.

"Servicing a Complex of Systems of Hierarchical Structure"

Kibernet. i vychisl. tekhn. Resp. mezhved. sb. (Cybernetics and Computer Technology. Republic Interdepartmental Collection), 1972, vyp. 18, pp 58-62 (from RZh-Kibernetika, No 5, May 73, abstract No 5V355 by I. Kovalenko)

Translation: A method is developed for finding the stationary characteristics of a complex hierarchical structure made up of many systems and a single repair center. In each of the subsystems, elements are replaced from the available supply when there are failures; when the supply is partially exhausted, transportation is sent from the subsystem to the repair center for a new set of elements. A very general mathematical model is proposed for the operation of such a system; exact and approximate methods of analyzing its characteristics are considered.

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USSR

UDC: 51

DIKAREV, V. Ye.

"Optimizing the Economic Effectiveness of Redundant Systems
by the Method of the Maximum Principle"

V sb. Mat. metody issled. i optimiz. sistem (Mathematical
Methods of Studying and Optimizing Systems--collection of
works), Kiev, 1971, pp 19-28 (from RZh-Kibernetika, No 8,
Aug 72, Abstract No 8V567)

[No abstract]

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USSR

UDC 51

DIKAREV, V. YE., SHISHONOK, N. A.

"Optimization of the Reliability Characteristics of Systems by the Method of the Discrete Principle of the Maximum. 1"

V sb. Mat. metody issled. i optimiz. sistem (Mathematical Methods of Investigation and Optimization of Systems — collection of works), Kiev, 1971, pp 167-176 (from RZh-Kibernetika, No 8, Sep 72, Abstract No 9V519)

No abstract

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USSR

UDC 51:330.115

DIKAREV, V. Ye.

"Strategy of Preventative Servicing of a System with Incomplete Testing of its Functioning"

Mat. Metody Issled. i Optimiz. Sistem. Vyp. 4 [Mathematical Methods of Investigation and Optimization of Systems, No 4 -- Collection of Works], Kiev, 1970, pp 25-36, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V550).

NO ABSTRACT.

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USSR

UDC 51:155.001.57:612.82

DIKAREV, V. Ye.

"Servicing a Set of Complex Systems"

Teor. Kibernetiki. vyp. 3 [Theory of Cybernetics, No 3 -- Collection of Works], Kiev, 1970, pp 80-97, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V684 by V. Ostrovskiy).

Translation: The problem of the reliability of functioning of a combination of territorially dispersed systems is studied. All systems are designed for the performance of one task and in the reliability aspect consist of series-parallel configurations. Each system is functionally redundant and equipped with servicing circuit for replacement of elements which fail with new elements from the reserve present with each system. Defective elements are delivered to a centralized servicing loop for repair. Delivery of repaired elements to the systems and collection of elements which have failed is performed by transport devices with a fixed schedule for visiting the systems. Using the apparatus of semi-Markov processes and Markov processes with discrete case intervention, the readiness factor is determined for each system. As an illustration, numerical calculation of the readiness factors is determined for a simple combination of two identical systems.

USSR

UDC 666.76:621.792

VERENKOVA, E. M., TROFIMOV, M. G., FROLOV, A. S., and DIKAYA, I. I., All-Union Scientific Research Institute of Aircraft Materials

"Properties of Ceramic Coatings From Phosphate Ceramics"

Moscow, Ogneupory, No 1, Jan 71, pp 41-45

Abstract: Working on the assumption that the introduction of phosphate compounds into the composition of refractory oxides permits an increase in the adhesion strength of ceramic coatings and their thermal stability, the authors studied Al_2O_3 and ZrO_2 powder compositions with additions of aluminum phosphate binder with the following composition: 10-11 percent H_3PO_4 , 15-16 percent $Al(H_2PO_4)_3$, 23-24 percent $Al_2(HPO_4)_3$, 50-51 percent H_2O . Density of binder 1.55-1.64 g/cm³. Weight ratio $Al_2O_3:P_2O_5$ in the binder was 1:3.8. The coatings were applied by rod gas-flame

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VERENKOVA, E. M., et al., Ogneupory, No 1, Jan 71, pp 41-45

spraying. The resultant phosphate ceramic coatings possess good adhesion to metals and alloys, thermal stability, and impact strength. These properties are 1.5-3 times greater than those of existing aluminum oxide and zirconium dioxide coatings with or without additions of sodium silicate. On the basis of their low thermal conductivity and high adhesion strength and thermal stability, the coatings are recommended for the protection of metals and alloys against the effects of high-temperature gas flows.

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- 3 -

1/2 023 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--SPECIFIC HEAT OF TUNGSTEN NEAR THE MELTING POINT -U-
AUTHOR-(02)-DIKHTER, I.YA., LEBEDEV, S.V. 
COUNTRY OF INFO--USSR
SOURCE--TEPLOFIZ. VYS. TEMP. 1970, 8(1), 55-6
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS
TOPIC TAGS--TUNGSTEN, MEASUREMENT, SPECIFIC HEAT

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/0753 STEP NO--UR/0294/70/008/001/0055/0058
CIRC ACCESSION NO--AP0107295
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107295

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SP. HEAT WAS MEASURED BY A PULSED METHOD. W WIRES WERE HEATED FOR A SHORT TIME BY A CURRENT OF HIGH D. THE SUPPLIED ENERGY WAS DETD. BY OSCILLOGRAMS OF THE HEATING CURRENT AND VOLTAGE DROPS ON THE WIRE. THE TEMP. WAS RECORDED BY THE PHOTJelec. METHOD. SP HEATS OF SOLID AND LIQ. W WERE MEASURED AT 2600-4500DEGREESK. THE MEASURED VALUE OF HEAT OF FUSION OF W IS (334 PLUS OR MINUS 16) TIMES 10 PRIME3 J-KG.

UNCLASSIFIED

AA0044819

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

243977 GENERATOR FREQUENCY STABILISING DEVICE, in which the piezoelectric element is cut at an angle of minus 22-24° with the X-axis, and plus 33.5-35° with the Z axis of the piezoelectric quartz crystal. This cutting eliminates the effect of temperature gradients in the element on its resonant frequency.
3.7.67 as 1168743/18-10.DIKIDZHI.A.N.et al.(1.10.69)
Bul 17/14.5.69. Class 42s. Int.Cl. B 06b.

AUTHORS: Dikidzhi, A. N., Dikidzhi, L. Sh., Ivlev, L. Ye.,
Teren'ko, V. S., Kuznetsova, L. P., Perel'man, G. G.

19771669

AA0044819

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

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243977 GENERATOR FREQUENCY STABILISING DEVICE, in which the piezoelectric element is cut at an angle of minus 22-24° with the X-axis, and plus 33.5-35° with the Z axis of the piezoelectric quartz crystal. This cutting eliminates the effect of temperature gradients in the element on its resonant frequency.

3.7.67 as 1168743/18-10. DIKIDZHI, A. N. et al. (1.10.69)

Bul 17/14.5.69. Class 42s. Int. Cl. B 06b.

AUTHORS: Dikidzhi, A. N., Dikidzhi, L. Sh., Ivlev, L. Ye.,
Teren'ko, V. S., Kuznetsova, L. P., Perel'man, G. G.

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19771669

USSR

UDC: 51:621.391

DIKIN, I. I.

"Concerning Continuous Analogs of the Method of Internal Points"

Sb. tr. In-t mat. Sib. otd. AN SSSR (Collected Works. Institute of Mathematics, Siberian Department of the Academy of Sciences of the USSR), 1971, vyp. 9, pp 59-64 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V521 [introduction])

Translation: This paper investigates the method of differential descent, which is a continuous version of the algorithms published by the author (RZhMat, 1967, 11V358). Differential equations of the method of internal points are also proposed for solving some minimax problems.

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Thermodynamics

USSR

UDC 532.132

DIKINA, L. S., YESEL'SON, B. N., NOVIKOV, P. S., RUDAVSKIY, E. Ya., Physico-technical Institute of Low Temperatures, Academy of Sciences of the UkrSSR, Khar'kov

"Dispersion of Heat Waves in He-II With a Damped Normal Component"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 17, No 12, Dec 72, pp 1989-1996

Abstract: The authors study the velocity of heat waves in narrow channels filled with superfluid helium. A carbon film was used as the radiator, and a thin antimony-doped germanium single crystal acted as the receiver. The heat waves propagated in narrow channels formed by fine glass filaments. The measurements were made by the pulse-phase method in the substitute $1.4^{\circ}\text{K}-T_{\lambda}$ temperature interval at radiation frequencies of 0.6, 2.0, and 3.0 kHz. It is shown that as the frequencies decrease with increasing depth of penetration of the viscous wave there is an increase in damping of the normal component and, hence, an increase in the degree of dispersion of the heat waves. The variation of the heat wave velocity in the temperature and frequency agrees satisfactorily with theoretical predictions if the mean effective dimension of the channels is taken as the normalizing parameter.

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USSR

UDC 533.92:621.039.61

VOYTSENYA, V. S.; ZISER, V. Ye., DIKIY, A. G., ZHDANOV, A. I.,
PINOS, I. B., YAROKER, Ya. N.

"Calculation and Modeling of Helical Windings of Various Types on Toroidal Surfaces"

Fiz. plazmy i probl. upravl. termoyader. sinteza. Resp. mezhved. sb.
(Plasma Physics and Problems of the Controlled Thermonuclear Fusion.
Republic Interdepartmental Collection), 1972, No. 3, pp 137-141 (from
RZh-Fizika, No 11, Nov 72, Abstract No 11G276)

Translation: The problem of the possibility of using various winding patents for helical conductors on toroidal surfaces is investigated: geodesic lines, lines of constant inclination to the generatrix of the torus, and lines of a cylindrical and toroidal spiral. It is shown that a tight elastic grid can be a fairly good approximation for geodesic lines on a torus. Data are given for constructing a geodesic line on a toroidal surface with an arbitrary aspect ratio. The calculations were made on the "Ural-4" and "Mir" computers.

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USSR

UDC 533.92:621.039.61

ALEKSIIN, V. F., BIRYUKOV, O. V., VISHNEVETSKIY, V. N., GEORGIYEVSKIY, A. V., GROT, Yu. I., DIKIY, A. G., ZISER, V. Ye., KITAYEVSKIY, L. Kh., KONOTOP, P. I., POGOZHEV, D. P., PELETNINSKAYA, V. G., SERGEYEV, Yu. F., SMIRNOV, V. G., SUPRUNENKO, V. A., TOLOK, V. T., TARAN, V. M.

"Development and Production of the Magnetic System of the 'Uragan' Stellarator and a Study of Magnetic Surfaces With Large Shear"

Fiz. plazmy i probl. uprav. termoyader. sinteza. Resp. mezhved. sb.
(Plasma Physics and Problems of the Controlled Thermonuclear Fusion. Republic Interdepartmental Collection), 1972, No. 3, pp 73-112 (from RZh-Fizika, No 11, Nov 72, Abstract No 11G279)

Translation: This paper concerns the study of the magnetic system of the three-loop "Uragan" stellarator-racetrack. Considerations concerning the selection of optimal parameters of the magnetic system of the stellarator are discussed. The equipment of the "Uragan" is briefly described. An experimental study of the magnetic surfaces made with the aid of low-energy electron beams showed that in the "Uragan" stellarator-racetrack with

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ALEKSIN, V. F., et al, Fiz. plazmy i probl. upravl. termoyader. sinteza.
Resp. mezhved. sb., 1972, No. 3, pp 73-112

individually controlled cylinders there are closed magnetic surfaces with high shear values (~ 0.09) and angle of rotational conversion ($\sim 240^\circ$). The experimental data are compared with calculated values obtained on the BESM-6 computer.

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UDC 533.92:621.039.61

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ALEKSIN, V. F., BIRYUKOV, O. V., VISHNEVETSKIY, V. N., GEORGIYEVSKIY, A. V., GROT, Yu. I., DIKIY, A. G., ZISER, V. Ye., KITAYEVSKIY, L. KH., KONOTOP, P. I., POGOSHEV, D. P., PELETNINSKAYA, V. G., SERGEYEV, Yu. F., SMIRNOV, V. G., SUPRUNENKO, V. A., TOLOK, V. T., and TARAN, V. M.

"Development and Synthesis of the "Uragan" Stellarator and Investigation of Magnetic Surfaces of High Shear"

Kiev, Fizika Plasmy i Problemy Upravlyayemogo Termoyadernogo Sinteza (Plasma Physics and Problems in Controlled Thermonuclear Synthesis -- collection of works) "Naukova dumka," No 3, 1972, pp. 73-112

Abstract: After an initial section devoted to a review of the literature on the magnetic surfaces of toroidal stellarators and the principles of stellarators in general, the authors analyze the "Uragan" specifically. In particular, this paper is concerned with the problems involved in choosing the parameters of the magnetic system for the racetrack stellarator to obtain magnetic surfaces with high shear. This last term is defined as the extent of crossing of the magnetic lines of force. The synthesis and adjustment of the magnetic system are also examined, and 1/2

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USSR

ALEKSIN, V. F., et al., Fizika Plasmy i Problemy Upravlyayemogo Termoyadernogo Sintez, "Naukova dumka," No 3, 1972, pp 73-112

the results are given of an investigation into the instrument's magnetic surfaces. Computations worked out on an electronic computer for the design of the magnetic system are described, and differences between the "Uragan" and the "Sirius" stellarators are indicated. A comparative table of the parameters for various types of stellarator is given; it shows that the "Uragan" is one of the more powerful thermonuclear machines, with a high shear value for its substantial 10 koeersted magnetic field intensity. This article is liberally illustrated with photographs and line drawings and has a bibliography of 51 titles.

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USSR

UDC 533.9

10

VISHNEVETSKIY, V.N., VOYTENKO, D. A., VOLKOV, YE. D., ~~DIKIY, A. G.~~, ZALKIND, V. M., KONOTON, P. I., MOISEYEV, S. S., PAVLICHENKO, O. S., PASHNEV, V. K., SUPRUNENKO, V. A., TOLOK, V. T., TERESHCHENKO, F. F., TONKOPRYAD, V. M., and TARASENKO, V. P., Physico-Technical Institute of Academy of Sciences Ukrainian SSR, Kharkov

"Energy Losses of Plasma in a 'Uragan' Stellarator With Large Shear"

Kiev, Ukrainskiy Fizicheskij Zhurnal, Vol 16, No 8, Aug 71, pp 1320-1323

Abstract: Investigations of the rate of energy losses in plasma have shown that the holding time of particles significantly exceeds the energy life time when the plasma is of collision type. This article discusses the results of investigations on the rate of energy losses of collision-type plasma for the "Uragan" stellarator. The authors study the dependence of energy life time of the plasma on the amount of shear and the angle of conversion. They make extensive use of graphs to illustrate their findings and find that the experimental points lie on a straight line. The authors conclude that the results may be explained on the basis that a temperature-drift instability develops in the plasma. The article contains 5 figures and 8 bibliographic entries.

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USSR

UDC 620.194:621.785.7

KHITARISHVILI, M. G., DIKIY, I. I., ZYUBRIK, A. I., VASILENKO, I. I.

Physicomechanical Institute, Academy of Sciences, Ukrainian SSR, L'viv

"An Investigation of Corrosive Cracking of High-Strength Steels in Some Media"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 4, 1971, pp 19-23

Abstract: The present article is a continuation of research dealing with the cracking of high-strength hardened U8A carbon steel in acid and neutral media. The development of a crack in a sample undergoing testing for corrosive cracking brings about a gradual decrease of cross section. Therefore, if equally loaded samples are preliminarily held in the medium for different lengths of time, and are then tested for short-time strength in air, this short-time strength must continually decrease with increase of the time the sample is held in the medium. The indicated nature of the change between the short-term strength of the samples and the kinetics of crack development has a specific relationship; various sectors of the curves correspond to various stages of corrosive crack development. These stages of crack development are explained from the point of view of the electrochemical theory of corrosive cracking. 5 figures. 2 tables. 8 references.

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USSR

UDC 621.438.038

BUGRIM. L. I., DIKIY, N. A., and CHICHKAN', L. A.

"A Mock-up for the Investigation of Thermoregulatory Apparatus in Gas Turbine Engines Using the Method of Structural Synthesis"

Nikolayev, Tr. Nikolayev. korablestroit. in-ta (Transactions of the Nikolayev Shipbuilding Institute) Vyp. 51, 1972 pp 64-72 (from Referativnyy Zhurnal -- Turbostroyeniye, No 7, 1972, abstract No 7.49.140)

Translation: The question of the synthesis of model gas turbine engines for the adjustment of thermoregulatory apparatus under laboratory conditions is considered. The controlling device of the model was produced with the method of structural synthesis of nonlinear systems. An experiment on transient flow was carried out on an analogue computer MN-7M. An evaluation of the precision of the model followed from the principle of comparison of the experimental results with transients of a real gas turbine engine. (4 illustrations, 7 bibliographical entries)

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Acc. Nr.: AA0040536 D

Ref. Code: LR 0482

USSR

UDC 621.317.7.315.632

JPRS 52248

DIKLIN, YE. I.

"Device for Measuring the Parameters of Semiconductor Devices"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, 1970, p 67, Author Certificate No 258466 Class 2lg.

Abstract: This author certificate introduces a device for measuring the parameters of semiconductor devices. The device has a cadence pulse generator, a variable frequency generator connected in series with a key, a standard resistance, a key, an amplifier and a recording device. In addition, the keys contain terminals for connecting a transistor to be tested, while the cadence pulse generator outputs are coupled to control key inputs. To increase productivity, and to eliminate the effect of the devices transmission coefficient on the accuracy of measurements, a voltage to code converter and a key are connected between the amplifier and

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the recording unit. The key outputs are connected with two registers, which in turn are connected to an arithmetical device, the outputs of which are connected to a recording unit. The cadence pulse generator is coupled to the key inputs, to the arithmetic and to the recording devices.

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UDC 621.317.7.315.632


~~DIKLIN, YE. I.~~

"Device for Measuring the Parameters of Semiconductor Devices"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, 1970, p 67, Author Certificate No 258466 Class 21g.

Abstract: This author certificate introduces a device for measuring the parameters of semiconductor devices. The device has a cadence pulse generator, a variable frequency generator connected in series with a key, a standard resistance, a key, an amplifier and a recording device. In addition, the keys contain terminals for connecting a transistor to be tested, while the cadence pulse generator outputs are coupled to control key inputs. To increase productivity, and to eliminate the effect of the devices transmission coefficient on the accuracy of measurements, a voltage to code converter and a key are connected between the amplifier and the recording unit. The key outputs are connected with two registers, which in turn are connected to an arithmetical device, the outputs of which are connected to a recording unit. The cadence pulse generator is coupled to the key inputs, to the arithmetic and to the recording devices.

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USSR

UDC 669.721.018.9.4

DIKOV, V. V., SERGEYEV, V. V.

"Refining of MgS5 Magnesium Alloy With Titanium Sponge"

Tr. Vses. N-i. i Projektn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 150-154. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G202 by the authors).

Translation: The possibility is shown of almost complete removal of Fe from Mg alloy type MgS5. The content of Si, which like Fe is an impurity in this alloy, is also sharply decreased. The interaction of Ti with the alloying elements of type MGSS alloy (Mn, Al, and Zn) is less effective. The Ti slightly decreases the concentration of Mn in the alloy, while the concentrations of Al and Zn are practically unchanged. This method of refining can be used for type MGS1-MGS6 alloys. Refining of these alloys with Ti increases their corrosion resistance. 3 tables, 5 biblio refs.

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USSR

UDC 51.621.391

DIKOVSKIY, A. Ya.

"Note on Deterministic Linear Languages".

Probl. Kibernetiki [Problems of Cybernetics -- Collection of Works], No. 23, Moscow, Nauka Press, 1970, pp 171-208 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V460).

Translation: Basic definitions are given and the interrelationships between classes of languages are studied.

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1/2 036 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--TOXIC ACTION OF 2, (BETA DIALKYLAMINOETHYL) PYRIDINE DERIVATIVES -U-
AUTHOR--(02)-DIKSHEYN, YE.A., TRANKOVSKIY, A.M.
COUNTRY OF INFO--USSR
SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(2), 231-4
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TOXICITY, AMINE DERIVATIVE, PYRIDINE, IODINATED ORGANIC
COMPOUND, RNA, BRAIN TISSUE, CIRCULATORY SYSTEM, HISTOLOGY, LIVER, RAT,
MOUSE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0793 STEP NO--UR/0390/70/033/002/0231/0234
CIRC ACCESSION NO--AP0119700
UNCLASSIFIED

2/2 036

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119700

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. 2, (BETA-DIMETHYLAMINOETHYL) PYRIDINE IODOMETHYLATE, 2, (BETA-METHYLAMINOETHYL) PYRIDINE-HCl, AND 2, (BETA-DIETHYLAMINOETHYL) PYRIDINE IODOETHYLATE WERE TESTED FOR TOXICITY AND MORPHOL. CHANGES IN MICE AND RATS. THE RESP. I.P. LD SUB50 VALUES IN MICE WERE 367, 321, AND 144 MG-KG. DURING ORAL ADMINISTRATION, HOWEVER, 2, (BETA-DIMETHYLAMINOETHYL) PYRIDINE, HCl WAS ALMOST TWICE AS TOXIC AS 2, (BETA-DIMETHYLAMINOETHYL) PYRIDINE IODOMETHYLATE. HISTOL. INVESTIGATION FOLLOWING DEATH CAUSED BY LETHAL DOSES OF THE COMPOS. INDICATED BRONCHOSPASMS, CIRCULATORY DISORDER, DYSTROPHIC CHANGES IN THE LIVER, MYOCARDIA WITH GREATLY REDUCED GLYCOGEN LEVELS, AND REDUCED LEVELS OF RNA IN THE BRAIN STEM AND SUBCORTICAL GANGLIA. SYSTEMATIC S.C. ADMINISTRATION OF 0.050.05 MILLIMOLE OF THE COMPOS., KG OVER A PERIOD OF 2 WEEKS DID NOT AFFECT THE BEHAVIOR OR STATE OF THE ANIMAL. FACILITY: DONETS. GOS. MED. INST. IM. GOR'KOGO, DONETSK, USSR.

UNCLASSIFIED

DIKSIT, K.R.

JPRS 59068
6-73

1-2. QUASIRANDOM THEORY OF NUCLEUS FORMATION

Article by K. R. Diksit, Indira Nagar, New Delhi, 110 014, India. In: Journal of Nuclear Energy, Part A, Vol. 17, No. 1, 1972, p. 1-10. Poluprovodnikov, K. R. Diksit, Indira Nagar, New Delhi, 110 014, India. 17-17 June, 1972.

It is possible to propose that the adsorbed atom move in the potential field of the substrate atoms. The potential energy of the approximating atoms depends on the force of the interaction and their coordinates with respect to the surface. It is noted that the potential energy has the minimum value at a defined distance from the surface plane. Of course, the maximum probability of finding the adsorbed atom must be at the distance where the potential energy is minimal. On any real surface the nucleation must occur only at the point which satisfies the above indicated conditions. For mathematical simplification, the potential function is represented by a power series; the basic term is written as quantizing for the motion perpendicular to the surface at the same time as an investigation of the classical symmetry is used for motion of the parallel surface.

1/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--3,4,BENZOPYRENE LEVEL IN SUNFLOWER AND COTTONSEED OILS ~U-
AUTHOR--(05)-GRIGORENKO, L.T., DIKUN, P.P., KALININA, I.A., MIRONOVA, A.N.,
RZHEKHIN, V.P.
COUNTRY OF INFO--USSR
SOURCE--PRIKL. BIOKHM. MIKROBIOL. 1970, 6(2), 142-50
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BENZENE DERIVATIVE, AROMATIC POLYCYCLIC HYDROCARBON,
CARCINOGEN, VEGETABLE OIL, SMOKE, FOOD TECHNOLOGY, FOOD ANALYSIS, THIN
LAYER CHROMATOGRAPHY, FLUORESCENCE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0109 STEP NO--UR/0411/70/006/002/0142/0150
CIRC ACCESSION NO--AP0135606
UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0135606
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLYCYCLIC HYDROCARBONS WERE DETD.
BY MODIFICATION OF A METHOD USED IN THE ANAL. OF SMOKED AND OTHER KINDS
OF FOODS, CONSISTING OF SAPON. OF 50 G OIL WITH 25 G KOH AND 100 ML
96PERCENT ETOH 1-2 HR OVER BOILING, SEPN. OF THE NONSAPOND. FRACTION BY
THIN LAYER CHROMATOG. ON AL SUB2 O SUB3 IN AN ASCENDING CURRENT OF ET
SUB2 O, FOLLOWED BY QUANT. AND QUAL. FLUORESCENCE ANAL. THE
3,4-BENZOPYRENE CONTENT IN SUNFLOWER OIL OF VARIOUS ORIGINS VARIED
WIDELY, BUT WAS MOSTLY 1-5 MU G-KG OIL. IT WAS ALSO FOUND IN COTTONSEED
OILS. FACILITY: ALL UNION RES. INST. FATS, USSR.

UNCLASSIFIED

Acc. Nr: **AP0044152**

Ref. Code: UR 0244

PRIMARY SOURCE: Voprosy Pitaniya, 1970, Vol 29, Nr 1,
pp 61-66

CORRELATION BETWEEN THE CONTENT OF POLYCYCLIC CARCINOGENS
IN ANIMAL FOOD PRODUCTS AND IN FODDER FOR FARM ANIMALS

N. D. Gorelova, P. P. Dikun, A. P. Dmitrochenko, N. D. Krasnitskaya,
A. I. Cherepanova, I. A. Shendrikova (Leningrad)

Summary

Rabbits, pigs, cows, chicken and ducks received during different periods of time (up to one year) fodder containing 3,4-benzpyrene. Animals and poultry were sacrificed 24 hours on termination of the experiment and their tissues and organs analyzed for the benzpyrene content. Meat and separately fat, and in some instances also liver, blood, etc were, as a rule, taken for analysis. Milk of experimental cows was used for feedings calves, whose meat, liver and blood were then also subjected to examination. Investigations also covered milk of experimental cows and chicken eggs. Control assays were a common practice as well. Meat and other objects under examination either contained no 3,4-benzpyrene at all, or demonstrated merely its traces. Hence, the presence in fodder of relatively large amounts of benzpyrene does not cause this carcinogen to appear in animal food products. Studies were also made as to the amount of intact benzpyrene passed from the organism of rabbits, cows, calves and chicken.

REEL/FRAME
19770633

2

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--AUTOMATIC WELDING OF TEE JOINTS BY A POWDER WIRE -U-
AUTHOR--(05)-DIKUN, Y.A., CHERNOV, YU.A., PELEVICH, YU.P., DUBEN, L.V.,
SOLLOVYEV, G.N.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, SVARCOHNOYE PROIZVODSTVO, NO 3, 1970, P 19
DATE PUBLISHED--70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--AUTOMATIC WELDING, WELD JOINT, WIRE, WELDING
ELECTRODE(U)EPS152 POWDER WIRE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1999/1298 STEP NO--UR/0135/70/000/003/0019/0019
CIRC ACCESSION NO--AP0123257
UNCLASSIFIED

Z/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123257

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TECHNOLOGY HAS BEEN DEVELOPED OF A SINGLE PASS AUTOMATIC WELDING OF TEE JOINTS USING A POWDER WIRE, IN WHICH JOINTS WITH A LEG UP TO 8 MM ARE WELDED IN A SINGLE PASS. WITH INCREASE OF THE LEG THE WELDING IS PERFORMED IN SEVERAL PASSES WITH SCRUBBING SLAG FROM JOINTS. THE WORKING CONDITIONS OF THE AUTOMATIC SINGLE PASS WELDING BY THE EPS-15,2 POWDER WIRE OF TEE JOINTS WERE DETERMINED.

UNCLASSIFIED

1/2 044 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--MASS TRANSFER UNDER TURBULENT FLOW CONDITIONS TO A STATIONARY DISK
ELECTRODE IN A VESSEL WITH MECHANICAL MIXING -U-
AUTHOR--(03)-BARDIN, M.B., DIKUSAR, A.N., KISHINEVSKIY, M.KH.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(2), 212-15

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--MASS TRANSFER, TURBULENT FLOW, PLATINUM ELECTRODE, OXIDATION
REDUCTION REACTION, FERRICYANIDE, FERROCYANIDE, MATERIAL MIXING, NUSSELT
NUMBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1056

STEP NO--UR/0364/70/006/002/0212/0215

CIRC ACCESSION NO--AP0112194

UNCLASSIFIED

2/2 044

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0112194

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MASS TRANSFER OF THE REDOX SYSTEM, $\text{Fe}(\text{CN})_6^{3-}$ PRIME² NEGATIVE, UNDER TURBULENT FLOW CONDITIONS WAS STUDIED IN ALK. SOLN. AT A SMALL (0.075 CM PRIME²) STATIONARY PT DISK BY VOLTAMMETRIC CURVES FROM 0 TO 0.5 V (100 MV-MIN). THE $\text{Fe}(\text{CN})_6^{3-}$ PRIME³ NEGATIVE CONC. VARIED BETWEEN 4 TIMES 10 PRIME³ TO 2 TIMES 10 PRIME² M, KOH CONC. VARIED 2 TO 6N, TEMP. VARIED 5 TO 45 DEGREES, AND THE ROTATION OF THE 2 BLADED MIXER, WHICH WAS LOCATED 41.5 MM ABOVE THE ELECTRODE, VARIED FROM 180 TO 2400 RPM. THE EXPTL. EVALUATED NUSSELT NO., Nu EQUALS 0.805 RE PRIME^{0.58} SC PRIME^{0.26} WAS VALID FOR THESE CONDITIONS, WHERE Nu EQUALS $\text{K} \cdot \text{D} / \text{V}$, RE EQUALS $\text{M} \cdot \text{D} \cdot \text{PRIME}^2 / \text{V}$, SC EQUALS V / D , K IS THE MASS TRANSFER COEFF., D THE CHARACTERISTIC LENGTH (MIXER DIAM.), M THE ROTATION RATE OF THE MIXER, V THE KINEMATIC VISCOSITY, AND D THE DIFFUSION COEFF. FACILITY: KISHINEV. GOS, UNIV., KISHINEV, USSR.

UNCLASSIFIED

USSR

UDC: 629.78.015.076.8

DIKUSAR, V. V., SHILOV, A. A.

"Irregular Optimum Trajectories of a Vehicle During Flight in the Atmosphere"

Uch. zap. Tsent. aero-gidrodinam. in-ta (Scientific Notes of the Central Aerohydrodynamic Institute), 1970, 1, No 4, pp 73-83 (from RZh-Raketostro-yeniye, No 1, Jan 71, Abstract No 1.41.76)

Translation: The authors analyze the necessary conditions of optimality and give a solution for the problem of determining the maneuvering capabilities of a vehicle in the irregular case. Procedural singularities are examined in the numerical solution of boundary value problems in the case of irregular optimum trajectories. Four illustrations, bibliography of three titles. Resumé.

1/1

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USSR

UDC 629.19:533.6

DIKUSAR, V. V., SHILOV, A. A.

"Optimization of the Flight Range of a Craft in the Atmosphere Considering the Restriction on the Total Overload"

Uch. zap. Tsentr. aerogidrodinam. in-ta (Scientific Notes of the Central Aerodynamics Institute), Vol 1, No 2, 1970, pp 75-83 (from RZh-Mekhanika, No 10, Oct 70, Abstract No 10 B316)

Translation: This article contains a study of the problem of selecting the control of the angle of attack of a craft braking in the atmosphere during flight to minimum and maximum range considering the restrictions on the magnitude of the total overload. The L. S. Pontryagin principle of the maximum is used. The problem reduces to integration of the equations of two-dimensional motion of the craft and the equations of a conjugate system obtained from the condition of the maximum Hamiltonian of the expanded system. The procedural peculiarities of solving the problem considering the restrictions with respect to overload are investigated, and the results of numerical determination of the optimal trajectories are presented.

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AA0040650

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UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

241572 ANODIC MACHINING OF METALS was improved by reducing the frequency of voltage pulses. A voltage difference is applied between the sparking tool and the work until an arc discharge is established. Then the voltage is switched off for the time required to deionize the air gap between the tool and work. It is claimed that this method improves considerably the finish of the surfaces without reducing the productivity.

29.7.67 as 1176203/25-8. S.F.BYSTROV & G.A.DIKUSHIN.
(28.8.69) Bul 14/18.4.69. Class 21h. Int.Cl.B 23k.

AUTHORS: Bystrov, S. F.; and Dikushin, G. A.

/ Kuybyshevskiy Politekhicheskiy Institut imeni
/ V. V. Kuybysheva

19750233

USSR

UDC 62-5

DIKUSHIN, V. I., Academician, Editor

"Agregatnoye Postroyeniye Unifitsirovannykh Sistem Programmogo Upravleniya Mashinami" (Building Standardized Control Systems for Machines from Sub-Assemblies), Moscow, "Nauka," 1973, pp 115

Translation of Annotation: This collection is devoted to the theory and practice of developing optimum automatic control systems for machines and equipment complexes by building standardized programmed and adaptive control systems from subassemblies. There is an analysis of the principles and plan of building such systems, both those already in use in industry and those which will be developed in the near future.

The collection is intended for engineering-technical and research workers in industrial enterprises and scientific research institute concerned with machine building.

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- DIKUSHIN, V. I., Building Standardized Control Systems for Machines from Sub-Assemblies, Moscow, "Nauka," 1973, 115 pp
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DIKUSHIN, V. I., Building Standardized Control System for Machines from Sub-Assemblies, Moscow, "Nauka," 1973, 115 pp

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3/3

1/2 026 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--INCREASING THE RESISTANCE OF CARBON STEEL WELDS TO CORROSION
CRACKING ON REDUCING THE RESIDUAL WELDING STRESSES BY WORKING -U-
AUTHOR--(05)-ZYUBRIK, A.I., VASILENKO, I.I., TEREKH, O.I., DIKY, I.I.,
KARPENKO, G.V.
COUNTRY OF INFO--USSR
SOURCE--FIZ.-KHIM. MEKHAN. MAT., 1970, 6, (12), 42-45
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS
TOPIC TAGS--CORROSION CRACKING, CARBON STEEL, STEEL WELDING, RESIDUAL
STRESS, ELECTROCHEMICAL PROPERTY, PLASTIC DEFORMATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/0216 STEP NO--UR/0369/70/006/002/0042/0045
CIRC ACCESSION NO--AP0129472
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129472

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE EFFECT OF PLASTIC DEFORMATION (WORKING) ON (I) THE RESIDUAL STRESSES ARISING IN THE NEIGHBOURHOOD OF WELDS IN C STEEL PARTS, (II) THE ELECTROCHEMICAL PROPERTIES OF THE WELD METAL, AND (III) THE RESISTANCE OF THE WHOLE TO CORROSION CRACKING WAS STUDIED. THERE WAS A SHARP FALL IN RESIDUAL STRESSES ON SUBJECTING TO 1-2PERCENT DEFORMATION; THE ELECTROCHEMICAL HETEROGENEITY OF THE METAL ALSO DIMINISHED, AND THE RESISTANCE OF THE WELDS TO CORROSION CRACKING IN BOILING ALKALI AND NITRATE SOLUTIONS INCREASED SUBSTANTIALY.

UNCLASSIFIED

USSR

UDC 519.217

DANIYEL'YAN, E. A., DILITROV, B. N.

"Servicing with Priorities and Warmup: Inverse Servicing Order"

Mat. Vopr. Upr. Proiz-vom. Vyp. 2 [Mathematical Problems of Production Control, No. 2 -- Collection of Works], Moscow, Moscow University Press, 1970, pp 165-178
(Translated from Referativnyy Zhurnal Kibernetika, No 4, April, 1971, Abstract No. 4 V50 by Yu. Gromak).

Translation: A one-line queueing system is studied, which receives r independent Poisson flows. If a request in the i th flow reaches a free system, then before servicing is begun, the system is prepared for servicing for a certain random time $\tau_i(i=\overline{1}, r)$. After preparation of type i , a request of the i th flow has priority over requests in other flows; if no request is present in the i th flow, requests from the flow with the lowest number are serviced in inverse order. The servicing time of requests and time of preparation of the system for servicing are independent random quantities with arbitrary distribution functions. This work produces the distribution function of the waiting time for the beginning of servicing of a request of the i th flow in the stable mode, as well as certain other stable probabilities.

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USSR

UDC 577.17.612.4

ANISIMOV, V. N., KHAVINSON, V. Kh., MOROZOV, V. G. and DIL'MAN, V. M.,
Scientific Research Institute of Experimental Medicine, USSR Academy of
Medical Sciences, Leningrad

"The Lowering of the Sensitivity Threshold of the Hypothalamic-Hypophyseal
System to the Action of Estrogens Under the Influence of Epiphyseal Extract
in Old Female Rats"

Moscow, Doklady Akademii Nauk SSSR, Vol 213, No 2, 1973, pp 483-485

Abstract: The effect of an acetic acid extract of bovine epiphysis on the
hypothalamic threshold to inhibition in systems of reproductive homeostasis
was studied. In one series of experiments the left ovary was removed from
young (3-month-old) and mature (17-19-month-old) rats and the extract was
subsequently administered for 7 days either with or without diethylstilbes-
terol propionate (DESP). The extract alone was found to have no effect on
the compensatory hypertrophy of the right ovary, however it lowered the com-
pensation when given with DESP compared to DESP alone. This is said to show
that the extract increases the sensitivity of the hypothalamus to the
inhibitory influence of estrogen, and is observed only in mature rats. In a
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USSR

ANISIMOV, V. N., et al., Doklady Akademii Nauk SSSR, Vol 213, No 2, 1973, pp 483-485

second series of experiments young, mature and old (26-28-month-old) rats were given the extract for 2 weeks and then their cycles were studied by vaginal smear for two weeks. It was observed that in old rats the extract caused a manifestation of the diestrus phase previously absent and a reduction of irregular cycles. This effect is proposed to be connected with the increase in hypothalamic sensitivity to estrogen.

2/2

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1/2 024 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--FUNCTIONAL INHIBITION OF THE ADRENAL GLANDS BY ACETILATED
DERIVATIVE OF THE ADRENOCORTICOTROPHIC HORMONE -U-
AUTHOR--DILMAN, V.M., PROKUDINA, YE.A., BULOVSAYA, L.N., KONSTANTINOV,
V.L., YUGUNOV, S.S.
COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69, NR
3, PP 69-71
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INHIBITION, ADRENAL GLAND, ACTH, HYDROCORTISONE, GUINEA PIG,
RAT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1982/0842

STEP NO--UR/0219/70/069/003/0069/0071

CIRC ACCESSION NO--AP0052276

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0052276

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACETYLATED DERIVATIVE OF ACTH IN WHOM ALL FREE AMINOGROUPS ARE ACETYLATED ARE ENDOWED WITH THE CAPACITY TO FUNCTIONAL INHIBITION OF THE ADRENAL GLANDS REDUCE THE LEVEL OF HYDROCORTISONE IN THE PERIPHERAL BLOOD IN INTACT GUINEA PIGS ON AN AVERAGE BY 37PERCENT FOUR HOURS AFTER INTRODUCTION AND THE LEVEL OF CORTICOSTERONE IN RATS BY 29PERCENT UPON ADMINISTRATION OF THE DERIVATIVE FOR A COURSE OF SEVEN DAYS.

UNCLASSIFIED

Adsorption

USSR

UDC 66.071.7

AKSEL'ROD, YU. V., DIL'MAN, V. V., FURMER, YU. V.

"Interfacial Turbulence in a Falling Liquid Film Under Conditions of Chemisorption"

Teoreticheskiye Osnovy Khimicheskoy Tekhnologii, Vol 5, No 5, 1971, pp 676-683

Abstract: The flow of a fluid film from desorption of poorly soluble gases (N_2O , He, Xe) from aqueous solutions of monoethanolamine (MEA) and NaOH was experimentally studied in the wave and turbulent modes with simultaneous chemisorption of CO_2 from the gas. It is shown for the CO_2 -MEA system that when the chemical reaction occurs, the rate of desorption of the inert component sharply increases, which is explained by the development of convective flows in the immediate area of the phase division surface. It is shown that under conditions of turbulence between phases, molecular diffusion has no significant influence on the rate of the transfer processes.

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USSR

UDC 681.128:621.398

D
DIMAKSYAN, A. M.

"Servo Float Systems for Water Level Telemetry"

Tr. Gos. gidrolog. in-t (Works of the State Hydrological Institute), 1969, vyp. 168, pp 31-65 (from RZH-Metrologiya i Izmeritel'naya Tekhnika, No 1, Jan 70, Abstract 1.32.818)

Translation: Domestic and some foreign tape, float systems for water level telemetry are considered. The remote transmission of the water levels is realized with the help of synchronous signals of pulsed servo and parametric converters. The obtained equations determine the relation between the rising water level and the angle of turn of the axis of float pulley and electrical converters for all varieties of servo systems of level gauges. The analysis shows that the float level gauge with selsyn motor is the most promising of the servo systems used for study of the level of water. But in some cases, the use of pulsed servo systems in level gauges may prove advantageous.

USSR

UDC 911.3:613.6(575.1)

DIMANT, I. N., TASHBEKOV, B. U., DAVYDOV, Ya. S., and BOLOTOVA, M. N.

"Comparative Evaluation of the 3.4-Benzpyrene Content in the Air of Some Uzbekistan Cities"

V sb. Epidemiol. zlokachestven. opukholey (Tumor Epidemiology -- collection of works) Alma-Ata, "Nauka," 1970, pp 451-454 (from RZh-Meditsinskaya Geografiya, No 4, Abstract No 4.36.146)

Translation: The highest air contamination indicators were found in Angren and Almalyk. The chief cause of 3.4-benzpyrene in the air of Almalyk, Chirchik, Akhangaran and Bekabad is automobile exhaust gases. Heavy smoke contamination was noted in Angren. Great sources of contamination in Angren are the State regional electric power station and the Construction Material Combine (0.54-0.77 Mg/100 m³ in the summer and 0.92-1.15 M/100 m³ in the winter). In the area of the Tashkent highway, the level is 0.85 Mg/100 m³. The Almalyk winter carcinogen concentration in the industrial zone is 0.35 Mg/100 m³; in the residential zone, it is 0.19 M/100 m³ in summer and 0.25 Mg/100 m³ in the winter. Corresponding figures for the city highways are 0.94 and 0.98 Mg/100 m³. The lowest 3.4-benzopyrene concentrations are in the green belt around Bekabad (0.032 Mg/100 m³ in the summer and 0.077 Mg/100 m³ in the winter).

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1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--INVESTIGATION OF THE RENAL BLOOD CIRCULATION IN CLINICAL PRACTICE
-U-
AUTHOR--(04)-GINZBURG, V.S., GRINSHPUN, S.M., DIMANT, I.N.,
MURATKHODZHAYEV, N.K.
COUNTRY OF INFO--USSR
SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 5, PP 26-28
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RENAL BLOOD CIRCULATION, GOLD ISOTOPE, LIVER, CIRRHOSIS,
DIAGNOSTIC MEDICINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/0698 STEP NO--UR/0504/70/042/005/0026/0028
CIRC ACCESSION NO--AP0126410
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0126410

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO COMPARE AND FIND OUT THE
DIAGNOSTIC POSSIBILITIES OF THE METHODS OF RHEOHEPATOGRAPHY AND
INVESTIGATION OF RENAL BLOODFLOW BY MEANS OF AU PRIME198 THE AUTHOR
EXAMINED 52 PATIENTS WITH LIVER CIRRHOSIS AND 14 WITHOUT PATHOLOGY OF
HEPATOILIENAL SYSTEM. THE DATA OBTAINED SHOWED THAT THE SHAPE OF
RHEOHEPATOGRAPHIC CURVE CHANGED AND THE FRACTIONAL RENAL BLOODFLOW
GREATLY REDUCED IN PATIENTS WITH LIVER CIRRHOSIS. THE BEST RESULTS WERE
OBTAINED WHEN COMPARING BOTH METHODS. FACILITY: N-I INSTITUT
RENTGENOLOGII, RADIOLOGII I ONKOLOGII MINISTERSTVA ADRAVOOKHRANENIYA
UZBEKSKOY SSR, TASHKENT.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--ONCE MORE ON INDUCTION OF CEREBRAL TUMORS IN RATS BY
METHYLNITROSUREA--U-
AUTHOR--(04)--DIMANT, I.N., LOKTIONOV, G.M., SATAYEV, M.M., ISRAILYAN, A.A.
COUNTRY OF INFO--USSR
SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69,
NR 5, PP 90-92
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TUMOR, RAT, BRAIN, HORMONE, X RAY RADIATION BIOLOGIC EFFECT

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/0204 STEP NO--UR/0219/70/069/005/0090/0092
CIRC ACCESSION NO--AP0120902
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120902

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE SETS FORTH THE RESULTANT DATA OF EXPERIMENTS ON MONGREL RATS INVOLVING THE INDUCTION OF CEREBRAL TUMORS BY INTRAVENOUS INJECTION OF METHYLNITROSUREA. AN ANALYSIS OF THE RESULTS OF PERSONAL EXPERIMENTS WITH STATISTICAL TREATMENT SHOWED THE PRESENCE OF A SIGNIFICANT RELATION BETWEEN THE INCIDENCE OF OCCURRENCE OF CEREBRAL NEOPLASMS AND DISTURBANCES OF THE HORMONAL BALANCE CAUSED BY X IRRADIATION OF THE OVARIES AND FEEDING OF 6-METHYLTHIOURACYL. COMPARATIVE STATISTICAL STUDY OF LITERATURE SOURCES TESTIFY TO THE ROLE OF BIOLOGICAL PECULIARITIES OF THE LINES OF ANIMALS IN THIS PROCESS. FACILITY: INSTITUTE OF ROENTGENOLOGY, RADIOLOGY, AND ONCOLOGY, TASHKENT.

UNCLASSIFIED

USSR

UDC 518.5.681.3.06

DIMANTOV, Ya. A.

"Geometric Modeling as a Means for Solution of Problems in Kinematics"

Sb. Nauch. Tr. Leningr. Inzh.-stroit. In-t. [Collected Scientific Works of Leningrad Construction Engineering Institute], No. 64, 1970, pp 93-101 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V686 by V. Mikheyev).

Translation: A brief review is presented of works showing the close relationship of geometry and kinematics. It is confirmed that any problem in kinematics allowing mathematical abstraction can be solved on the basis of geometry as well. As an example, the solution of the problem of synthesis of a 3-dimensional, 5-link articulated dual-crank mechanism is studied. Analysis is presented of the geometric model of this mechanism. Two existence theorems are formulated and proven for the mechanisms studied in the example. An analytic representation is presented for the dependences which are geometrically modelled.

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USSR

UDC 621.382:539.216.2

BOGDAN, G. I. and DEMAROVA, Ye. N.

"Investigating the Thermistor Characteristics of Fine-Film MDM Structures"

Kiev, Poluprovodnikovaya tekhnika i mikroelektronika, No. 5, 1971, pp 70-72

Abstract: A description is given of experimental research on the thermistor characteristics of metal-dielectric-metal structures in which the dielectric is a thin film, measuring 1000 Å, of Nb₂O₅. Such structures, with S-shaped volt-ampere characteristics, are considered by the authors to be very promising as low-inertia and high-sensitivity heat sensors. A cross-section view of the specimen is shown. It consists of a plate of metallic niobium, 2X3X0.5 mm, coated with an oxide layer, and its electrodes are metallic niobium and indium film coated by vaporization in a vacuum on the oxide layer. The volt-ampere characteristics of the specimens are plotted together with a curve indicating the linear drop in voltage on the specimen with increasing temperature. A table of parameters for several thermosensitive MDM structures prepared under various conditions is also provided. The authors note that the use

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USSR

BOGDAN, G. I. and DIMAROVA, Ye. N., Poluprovodnikovaya tekhnika i mikroelektronika, No 5, 1971, pp 70-72

of such structures as thermic sensors is advantageous because they are chemically stable and have a wide range of operating temperatures. They are connected with the Kiev Polytechnical Institute.

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USSR

UDC 621.382.333.34

BOGDAN, G. I., and DIMAROVA, Ye. N.

"Study of the Thermistor Properties of a Thin-Film Metal-Dielectric-Metal Structure"

Pluprovodn. tekhn. i mikroelektronika. Resp. mezhved. sb. (Semiconductor Technics and Microelectronics. Republic Interdepartmental Collection), 1971, Issue 5, pp 70-72 (from RZh-Elektronika i yeye primeneniye, No 9, Sep 1971, Abstract No 9B490)

Translation: A study is made of the possibility of the use as a sensitive element of a thin-film metal-dielectric-metal structure with an active layer of a Nb_2O_5 1000 Å thick. The sensitivity of the element to a change of temperature with a voltage less than the switching voltage is 50 ± 5 mv/deg and the time constant with the given construction of the device is 1 sec. The effect is studied of regimes of oxidation and the formation by current on an oxide layer, on the stability and thermosensitivity of thermistors. 3 ill. 1 Tab. 4 ref.

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USSR

UDC 519.2:62-19

DIMENTBERG, M. F.

"Identification of a Stochastic System"

Izv. AN SSSR, Tekhn. Kibernetika, No. 2, pp. 207-212, 1969 (Translated from Referativnyy Zhurnal Kibernetika, No. 9, September 1969, Abstract No. 9V163 by the author)

Translation: The problem of identification of an object with one output which undergoes random changes in the process of its functioning is analyzed. In order to describe the behavior of the object, a model is used in the form of a system of noncoupled differential second order equations, the coefficients of which are stable random functions. Methods of determining the statistical characteristics of the damping coefficients are illustrated. The results of solution of the problem of identification can be used for evaluation of the reliability of the system with randomly changing parameters.

- END -

6508

CSO: 1870-D

USSR

UDC: 621.373.531(088.8)

IL'IN, V. A., DIMITRAKI, P. N., All-Union Polytechnical Correspondence
Institute

"A Pulse Generator"

USSR Author's Certificate No 270792, filed 3 Dec 68, published 26 Aug 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 10213 P)

Translation: This Author's Certificate introduces a pulse generator based on a bridge circuit. The generator contains a time-mark capacitor and switching devices with transistors having complementary symmetry. The unit is designed to produce square and spiked pulses with edges having a slope independent of pulse duration over a wide frequency range with low capacitance of the time-mark condenser. The capacitor is connected between the emitters of transistors of one conductivity type in the two switching devices. The base-emitter junctions of these transistors are the diagonals of two bridge elements whose legs are formed by resistors.

1/1

USSR

UDC 621.375.4:621.382.3

IL'IN, V. A., DIMITRAKI, P. N., ZHURAYLEV, I. G., and NOREKYAN, P. A.

"Experimental Investigation of Semiconductor Diodes Designed for Pulse Bridge Elements"

Moscow, Radiotekhnika, Vol 25, No 1, Jan 70, pp 84-88

Abstract: An experimental investigation of semiconductor diodes intended for pulse bridge elements was carried out, to determine their forward current voltage characteristics and the values of the differential resistance of certain types of diodes. This data is necessary for determining the stability of pulse bridge elements. Two sets (20 each) of diodes of different origin were tested at -60°C , $+25^{\circ}\text{C}$, and $+75^{\circ}\text{C}$ for germanium diodes and at -60°C , $+25^{\circ}\text{C}$, and $+120^{\circ}\text{C}$ for silicon diodes, the technological spread of their parameters was investigated. The results are presented in the form of current voltage and resistance characteristics. The characteristics of the maximum and minimum technological spread and the dependence of the differential resistance of the diode set at each experimental temperature were plotted on the basis of experimental data. An analysis of the results shows that:

1. The silicon junction pulse diodes are the best suited for pulse

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USSR

IL'IN, V. A., et al., Moscow, Radiotekhnika, Vol 25, No 1, Jan 70,
pp 84-88

bridge elements; 2. The germanium junction diodes can be used
successfully in circuits with pulse bridge elements only at average
frequencies (1.0-50 KHz), while the use of germanium point-contact
diodes is not justified. Original article has ten figures.

2/2

DEMISTRKI P.M.

Acc. Nr.: AP0040398

Ref. Code: UR 0709

USSR

UDC 621.375.4:621.382.3

JPRS 50248

IL'IN, V. A., DIMITRAKI, P. N., ZHURAVLEV, I. G., and NOREKYAN, P. A.

"Experimental Investigation of Semiconductor Diodes Designed for Pulse Bridge Elements"

Moscow, Radiotekhnika, Vol 25, No 1, Jan 70, pp 84-88

Abstract: An experimental investigation of semiconductor diodes intended for pulse bridge elements was carried out, to determine their forward current voltage characteristics and the values of the differential resistance of certain types of diodes. This data is necessary for determining the stability of pulse bridge elements. Two sets (20 each) of diodes of different origin were tested at -60°C , $+25^{\circ}\text{C}$, and $+75^{\circ}\text{C}$ for germanium diodes and at -60°C , $+25^{\circ}\text{C}$, and $+120^{\circ}\text{C}$ for silicon diodes, the technological spread of their parameters was investigated. The results are presented in the form of current voltage and resistance characteristics. The characteristics of the maximum and minimum technological spread and the dependence of the differential resistance of

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AP0040398

the diode set at each experimental temperature were plotted on the basis of experimental data. An analysis of the results shows that:
1. The silicon junction pulse diodes are the best suited for pulse bridge elements; 2. The germanium junction diodes can be used successfully in circuits with pulse bridge elements only at average frequencies (1.0-50 KHz), while the use of germanium point-contact diodes is not justified. Original article has ten figures.

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USSR

UDC 535.34

SMOLINSKIY, Ye. S., PALAMARYUK, V. Ye., DIMITRASHCHUK, A. T., and GUMINETSKIY, S. G.

"Method of Investigation of Absorption Spectra of Colloidal Solutions Under Deep Mode Conditions"

Minsk, Zhurnal Prikladnoy Spektroskopii, Vol 14, No 3, Mar 71, pp 502-507

Abstract: The design and operating principle of a device for study of the absorption spectra of colloidal solutions under deep mode conditions are described. The solutions are illuminated from above, and the light receivers consist of spherical and planar ground glass elements. The method of measuring the index of absorption α of colloidal solutions using these receivers is described. Results from determination of α for scattering media with various concentrations of glass powder are presented.

1/1

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DIMITRASHCHUK, V.T.

generators

TECHNICAL TRANSLATION

FSIC-HT-2-1572-72

ENGLISH TITLE: The Effect of Impurities on the Thermal Efficiency of a Short Circuited Generator

FOREIGN TITLE: Vliyaniye Prirozhnykh Neizmeshchennostey na Teploeffektivnost' Korotkozamyknutogo Generatorsa

AUTHOR: V. T. Dimitrashchuk

SOURCE: Izvestiya Vsesoyuznogo Nauchno-Issledovatskogo Tsentra - Tekhn. No 8, p. 7

Translated for FSIC by Leo Kanner Associates

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1/2 017
UNCLASSIFIED
TITLE--MEASUREMENT OF AN ELECTRICAL CONDUCTIVITY TENSOR FOR SINGLE
CRYSTALLINE FILMS -U- PROCESSING DATE--20NOV70
AUTHOR--(04)--ANATYCHUK, L.I., DIMITRASHCHUK, V.T., LUSTE, O.YA.,
TERESHCHENKO, YE.B.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13 (2), 146-8
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--MEASUREMENT, ELECTRIC CONDUCTIVITY, TENSOR, ELECTRODE, SINGLE
CRYSTAL FILM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/1038 STEP NO--UR/0139/70/013/002/0146/0148
CIRC ACCESSIGN NO--AT0119905
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0119905

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS DEvised FOR DETG. THE
COND. TENSOR COMPONENTS BY USING A SYSTEM OF 2 PAIRS OF ELECTRODES
PLACED IN FRONT OF ONE ANOTHER ON BOTH SIDES OF THE FILMS.
MEASUREMENTS ARE OBTAINED BY ROTATING THE ELECTRODE SYSTEM AROUND THE
CRYSTAL AXIS. FACILITY: CHERNOVITS. GOSUNIV., CHERNOVTSY,
USSR.

UNCLASSIFIED

USSR

UDC 547.753.757.07+546.79

DIMITREVS KAYA, L. I., SMUSHKEVICH, Yu. I., POZDNYAKOV, A. D., and SUVOROV, N.N.,
Moscow Chemico-Technological Institute imeni D. I. Mendeleev, Moscow

"Derivatives of Indole. LXXXII. Synthesis of Derivatives of Indole-¹⁵N"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 4, Apr 73, pp 516-517

Abstract: 3-Indolylacetic-¹⁵N acid (I), tryptamine-1-¹⁵N (II), and N, N-dimethyltryptamine-1-¹⁵N (III) were synthesized. Indole-¹⁵N was prepared by the cyclization of phenylhydrazine-1-¹⁵N on gamma-Al₂O₃ (cf. I. D. Pletnev et al, Khim. Geterotsik. Soyed., 1632, 1972) and I by reacting indole-¹⁵N with chloroacetic acid at 245-500° in an autoclave in the presence of KOH. The reaction of indole-¹⁵N with oxalic acid dichloride yielded 3-indolyloxalylchloride-¹⁵N, which was converted to 3-indolyloxalylamide-1-¹⁵N (IV) and the corresponding dimethylamide (V) by reacting it with NH₃ and Me₂NH, respectively. Reduction of IV and V with LiAlH₄ in tetrahydrofuran led to the formation of II and III, respectively. The content of ¹⁵N was 10.9% in indole-¹⁵N, 10.7% in I, 5.33% in II, and 5.46% in III.

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USSR

UDC 669.713.72

KULESH, M. K.M DIMITRIYEV, A. A., and VOLODCHENKO, V. O.

"Effect of the Height of the Electrolyte Layer on the Process of Aluminum Electrolysis "

Moscow, Tsvetnyye Metally, No 9, Sep 70, pp 23-24

Abstract: The effect of the height of the electrolyte layer on its gas content, electric resistance of the electrolyzer, and the quality of the anode has been studied. In industrial electrolyzers the height of the electrolyte layer varies from 16 to 24 cm. In some foreign plants the depth of anode penetration in the electrolyte is well below that used in Soviet plants, and the appropriate volume of the electrolyte is maintained through a greater distance from the anode to the edge of the electrolyte. This study was performed on 120 heavy-duty industrial electrolyzers. The data show that the specific gas content of the electrolyte increases with the depth of anode penetration: the wider the anode, the more intensive the changes in the gas content of the electrolyte as a function of its height above the anode base. It is shown that with an increase in the depth of anode penetration,

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USSR

KULESH, M. K., et al., Tsvetnyye Metally, No 9, Sep 70, pp 23-24
of a standard electrolyzer from 5 to 15 cm drops the voltage by
112 mv. An increase in the anode-electrolyte contact surface
through deeper penetration of its side faces in the melt may be
responsible for it.

1/2

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ANALYSIS OF THE OPERATION OF THE CENTRAL GAS FRACTIONATION PLANT OF
PLANT THE LOWER KAMA PETROCHEMICAL COMBINE -U-
AUTHOR-(05)-VOLFSON, I.S., KONSTANTINOV, YE.N., KOZIN, V.A., DIMITRIYEV,
A.P., ISLAMOV, SH.KH.
COUNTRY OF INFO--USSR
SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (2), 20-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--BUTANE, PROPANE, GAS, PETROCHEMISTRY, CHEMICAL PLANT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/1514 STEP NO--UR/0318/70/000/002/0020/0023
CIRC ACCESSION NO--AP0118501
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118501

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN C SUB2 H SUB6 COLUMN INSTEAD OF A FRACTIONATION ABSORBER AND A LOWER COOLING WATER TEMP. REDUCED THE LOSSES OF THE C SUB3 H SUB8-C SUB4 H SUB10 FRACTION OF THE DRY GAS. THE OPERATING COSTS INCREASED WHEN A SIMILAR QUALITY LEVEL WAS OBTAINED WITH ANALOGOUS TEMP. AND PRESSURE IN THE FRACTIONATION ABSORBER. BUBBLE CAPS INSTEAD OF GRID PLATES IN THE DISTN. COLUMNS PROVIDED HIGHER AND STABLE PURITY OF THE FRACTIONS, THE EFFICIENCY OF THE FORMER BEING TWICE AS HIGH. TEHRMOSIPHON REBOILERS INSTEAD OF FURNACES FOR HEATING THE COLUMN BOTTOMS IMPROVED THE OPERATION CONTROL AND VERSATILITY.

UNCLASSIFIED

Gloria

SO: JPKS 55935

04 May 1972

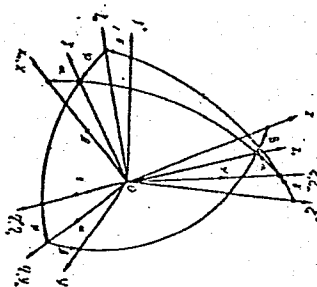
UDC 531.383.62-752.4

HOVE'S GYROSCOPE ON A UNIFORMLY ROTATING BASE

[Article by S. S. Anisimov and G. N. Dmitriyev, Leningrad, Priroda, 1971, no 2, pp 82-84]

In this article the possibility of constructing a free gyroscope on a base according to Hove's scheme is analyzed.

Let us assume that a Hove's gyroscope [1] is placed on a base rotating with the constant velocity γ around its axis η , perpendicular to the axis ξ of the gyroscope drive (see sketch). We shall determine the position of a coordinate system ξ, η, ζ connected with the base, with respect to a stationary system of reference ξ^*, η^*, ζ^* by an angle γ . Assuming that the torsion rigidities are finite only for twisting, we shall determine the gyroscope position with respect to the base by the angles φ, α , and β .



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DMITRIYEV, G. N.

CO: SPAS 55935
09 May 1972

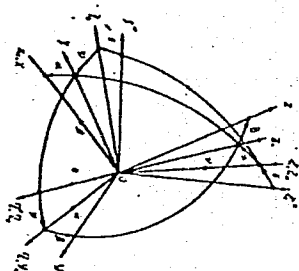
GLORIA

GYROSCOPE ON A UNIFORMLY ROTATING BASE
UDC 531.383+62-752.4

Article by A. S. Andriyuk and G. N. Dmitriyev; Leningrad,
Priborostroyeniye, Russian, Vol 13, No 2, 1972, pp 80-82

In this article the possibility of constructing a free gyroscope on a base according to Hove's scheme is analyzed.

Let us assume that a Hove's gyroscope [1] is placed on a base rotating with the constant velocity Σ around its axis η_0 , perpendicular to the axis ξ of the gyroscope drive (see sketch). We shall determine the position of a coordinate system $\xi_0\eta_0\zeta_0$ connected with the base, with respect to a stationary system of reference $\xi\eta\zeta$ by an angle Σ . Assuming that the torsion rigidities are finite only for twist-
ing, we shall determine the gyroscope position with respect to the base by the angles φ , α , and β .



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USSR

UDC: 681.3

SHUM, L. S., DIMITRIYEV, Yu. K., TOMILOV, Yu. F., POTAPOVA,
Yu. N.

"A Homogeneous Linear Control Computer System"

V sb. Vychisl. sistemy (Computer Systems--collection of works),
vyp. 39, Novosibirsk, 1970, pp 89-108 (from RZh-Matematika,
No 11, Nov 71, Abstract No 11V794)

Translation: The paper describes a linear homogeneous control
computer system with partially variable structure developed
and constructed at the Institute of Mathematics of the Si-
berian Department of the Academy of Sciences of the USSR. The
computer system can operate in real time and in the time
sharing mode. It can be used both for controlling scientific
and technical experiments and production processes and for
computations. V. Mikheyev.

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USSR

UDC: 681.3

~~DIMITRIYEV~~ Yu. K., SHUM, L. S., TOMILOV, Yu. F., POTAPOVA, Yu. N.

"Commutation Block and Interaction of Elementary Computers
in a Homogeneous Control Computer System"

V sb. Vychisl. sistemy (Computer Systems--collection of works),
vyp. 39, Novosibirsk, 1970, pp 107-118 (from RZh-Matematika,
No 11, Nov 71, Abstract No 11V793)

Translation: The paper describes the structure of a commu-
tation block and the principles of interaction between ele-
mentary computers in a linear homogeneous control computer
system. V. Mikheyev.

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USSR

UDC: 681.3

DIMITRIYEV, Yu. K., TOMILOV, Yu. F.

"A Set of Elements for Controlling a Homogeneous Computer System"

V sb. Vychisl. sistemy (Computer Systems--collection of works), vyp. 39, Novosibirsk, 1970, pp 128-136 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V789)

Translation: The authors consider a set of logic elements of potential type designed around a threshold element. Estimates are presented for the circuit of a computer based on this set of elements. A comparison is made with analogous estimates for a computer constructed from elements of the "Ural-10" complex. V. Mikheyev.

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USSR:

UDC: 681.3

DIMITRIYEV, Yu. K., SHUM, L. S., TOMILOV, Yu. F., POTAPOVA, Yu. N.

V'sb. Vychisl. sistemy (Computer Systems--collection of works), Vyp. 39, Novosibirsk, 1970, pp 107-118 (from RZh-Kibernetika, No 11, Nov 71, Abstract No-11V793)

Translation: The paper describes the structure of the commutation block and the principles of interaction of the elementary machines in a linear homogeneous computer control system. V. Mikheyev.

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USSR:

UDC: 681.3

SHUM, L. S., DIMITRIYEV, Yu. K., TOMILOV, Yu. F., POTAPOVA, Yu. N.

"A-Linear Homogeneous Computer Control System"

Vysb. Vychisl. sistemy (Computer Systems--collection of works), vyp. 39, Novosibirsk, 1970, pp 89-106 (from RZh-Kibernetika, No 11, Nov 71, Abstract No:11V794)

Translation: The paper describes a linear homogeneous computer control system with partially variable structure developed and built at the Institute of Mathematics of the Siberian Department of the Academy of Sciences of the USSR. The system can operate in real-time and time-sharing modes. It can be used both for controlling scientific and technical experiments and processes in production, and for computations. V. Mikheyev.

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USSR

DANIYELIAN, E. A., DIMITROV, B. N.

"Servicing with Changing Priorities and "Warm Up Period"

Uch. Zap. Yerevan. Un-t Estesv. n. [Scientific Writings of Yerevan University, Natural Sciences], No 1(116), 1971, pp 3-10 (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V74 from the Foreword).

Translation: The following queueing system is studied. One servicing device receives r independent Poisson streams of requests L_1, \dots, L_r with parameters a_1, \dots, a_r respectively. If a call from flow L_i arrives at a system which is free, before servicing begins, type i "warm up" must occur, i.e., the device prepares for servicing of the call during random time τ_i , where $P\{\tau_i < t\} = G_i(t)$, $i = 1, \dots, r$. The continuous operating time of a device following type i "warm up" is called the type i busy period. Calls of flow L_i , serviced during the type i busy period have relative priority over calls of the other types, while calls from flow L_k have relative priority during the type i busy period over calls of flow L_j where $k < j$, $j \neq i$.

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USSR

DANIYELYAN, E. A., DIMITROV, B. N., Uch. Zap. Yerevan. Un-t. Estesv. n., No 1(116), 1971, pp 3-10.

The order of servicing of calls of the same flow is direct. The duration of servicing of calls, as well as the duration of "warm up" are independent, random quantities. The duration of servicing of calls from flow L_j during a type i busy period has distribution $B_j^i(t)$, $i, j = 1, \dots, r$. Certain characteristics of this queueing system are studied.

2/2

- 3 -

USSR

UDC: 519.2

DANIYELIAN, Ye. A., DIMITROV, B. N.

"Concerning the M/G/1 Queue With Waiting and Two Types of Refusals"

Math balkan., 1972, 2, pp 21-37 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V75 by I. Kovalenko)

Translation: The paper considers the M/G/1 queue with waiting which may be out of service in intervals when the server is unoccupied. (Two types of refusals are distinguished; each has its own corresponding distribution of recovery time). An embedded Markov chain is studied which determines the state of the queue at 0-instants, i. e. at the times of beginning or ending of service and recoveries of the server; $p(m, n, x, t)dx$ denotes the probability that there are m customers in the queue at time t , n customers have been served up to time t , and a time which belongs to the interval $(x, x+dx)$ has elapsed since the last 0-instant. The paper gives an analytical method of determining the function

$$P^*(y, z, x, s) = \sum_{m, n} y^m z^n \int_0^{\infty} e^{-st} p(m, n, x, t) dt,$$

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USSR

DANIYELIAN, Ye. A., DIMITROV, B. N., Math. balkan., 1972, 2, pp 21-37

in terms of which the main stationary and nonstationary characteristics of the queue are expressed. Application is found for queues with reverse order-of-arrival service and queues with priorities.

2/2

- 2 -

USSR

DANIELYAN, E. A., DIMITROV, B. N.

"One Priority Queueing System with Two Types of Failures"

Uch. zap. Yerevan. Un-t. Yestestv. n. [Scientific Writings of Yerevan University, Natural Sciences], 1972, No 2(120), pp 131-133 (Translated from Referativnyy Zhurnal, Kibernetika, No 3, Moscow, 1973, Abstract No 3 V314 by the authors).

Translation: A queueing system with relative priority and an unreliable servicing device is studied. Two types of failures of the device are possible. The distribution of waiting time of calls of each priority class is presented in LaPlace transforms for the stable operating mode of the system and the first two moments are produced by the method of embedded Markov chains.

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USSR

DIMITROV, B. N.

"Sequences of Restoration Processes and Random Sums"

Sb. Rabot. Vychisl. Tsentra Mosk. Un-ta [Collected Works of Moscow University Computer Center], 1972, Vol 18, pp 3-15 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V133 by B. Sevast'yanov).

Translation: Suppose $\{\eta_{n,i}\}_{i=1}^{\infty}$, $n=1, 2, \dots$, are sequences of independent nonnegative, identically distributed, infinitely small random quantities and $k_n \rightarrow \infty$ is such that $P\{S_{n,k_n} < t\} \rightarrow \Phi(t)$, where $S_{n,k} = \eta_{n,1} + \dots + \eta_{n,k}$, $\Phi(t)$ is a certain distribution function with $\Phi(0) \neq 1$ and the Laplace transform $\int_0^{\infty} e^{-st} d\Phi(t) = \varphi(s)$. We represent $N_n(t) = \max\{k; S_{n,k} \leq t\}$ as the number of restorations in interval $[0, t]$ in the restoration process $\eta_{n,1}, \eta_{n,2}, \dots$.

It is proven that $\lim_{n \rightarrow \infty} P\left\{\frac{N_n(t)}{k_n} < x\right\} = A(t, x)$, where $A(t, x) = 1 - \Phi(t, x)$, a $\Phi(t, x)$ is defined according to the Laplace transform $\int_0^{\infty} e^{-st} d_t \Phi(t, x) = [\varphi(s)]^x$. The number of restorations in an interval of random length is also studied. Application of reservation with restoration to one problem is illustrated.

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USSR

DANIELYAN, E. A., DIMITROV, B. N.

"The Line Length of One Two-Priority Queueing System with an Unreliable Instrument"

Sb. Rabot. Vychisl. Tsentra. Mosk. Un-ta [Collected Works of Moscow University Computer Center], 1972, Vol 18, pp 113-124 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V96 by I. Kovalenko).

Translation: The unstable distribution of probabilities of states of a one line queueing system with two simple input flows and relative priority is studied on the assumption that the instrument may be in the down state. The distributions of servicing time, time in the operating state, counting from the beginning of the down interval, and restoration time are arbitrary. The method of solution of the problem is analysis of the behavior of the system within the busy interval.

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USSR

DANIELYAN, E. A., DIMITROV, B. N., ZAYTSEV, V. A.

"Behavior of Characteristics of Queueing Systems for High Values of a Parameter"

Sb. Rabot. Vychisl. Tsentra Mosk. Un-ta [Collected Works of Moscow University Computer Center], 1972, Vol 18, pp 31-54 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V90 by I. Kovalenko).

Translation: A one-line queueing system is studied, with several priority classes, absolute priority and preserviceing of requests. Suppose $W_k(t)$ is the distribution function of servicing time of a request from the k-th priority class, $\Pi_{k-1}(t)$ is the busy interval of the queueing system for requests with priorities over k. Under certain analytic conditions, the asymptote of both functions is found where $t \rightarrow \infty$.

1/1

USSR

UDC 519.217

DIMITROV, B. N., DANIYELIAN, E. A.

"Several Limit Theorems in the Theory of Reliability and Queueing Theory"

Mat. Vopr. Upr. Proiz-vom. Vyp. 2 [Mathematical Problems of Production Control, No. 2 -- Collection of Works], Moscow, Moscow University Press, 1970, pp 179-183
(Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4, V51 by Yu. Gromak).

Translation: Suppose there is an unreliable element characterized by times of operation and repair with distribution functions $G(t)$ and $F(t)$ respectively. The element is subjected to certain "calamities," the flow of which is a Poisson flow with parameter λ . This article studies the limiting behavior of the quantity λh_ζ (as $\lambda \rightarrow 0$), where h_ζ is the summary time of operation of the element up to random moment ζ of arrival of the first "calamity." The results produced allow determination of the limiting distribution of quantity $\lambda \tau$ (as $\lambda \rightarrow 0$), where τ is the time to the first failure of the system with one reserve element, the operating time of which is exponentially distributed with parameter λ .

1/1

1/2 017
UNCLASSIFIED
TITLE--INFRARED SPECTROSCOPIC STUDY OF 5,6,CELLULOSENE ACETATES -U-
PROCESSING DATE--11SEP70
AUTHOR--KOMAR, V.P., ZHBANKOV, R.G., DIMITROV, D.G., GALBRAYKH, L.S.,
ROGOVIN, Z.A.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN. SER. B 1970, 12(1), 77-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CELLULOSE RESIN, ACETATE, IR SPECTRUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/0228
STEP NO--UR/0460/70/012/001/0077/0079
CIRC ACCESSION NO--AP0106884
UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--11SEP70
CIRC ACCESSION NO--AP0106984
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE STRUCTURES OF 5,6,CELLULOSENE
(I) ACETATES CONTG. OAC GROUPS AT C-5, C-2, C-3, AND C-5; AND AT C-2,
C-3, C-5, AND C-6, WERE STUDIED BY IR SPECTROSCOPY AT 400-3800CM PRIME
NEGATIVE1. SEVERAL ABSORPTION BANDS AT 1730, 1240, 1060, AND 600CM
PRIME NEGATIVE1 SUGGESTED THAT I ACETATE RESULTED FROM THE IONIC ADDN.
OF ACOH TO THE DOUBLE BOND. THE DIFFERENCE BETWEEN THE SPECTRA OF I
ACETATE (CONTG. AN OAC GROUP AT C-5) AND I TRIACETATE (CONTG. OAC GROUPS
AT C-5, C-2, AND C-3) INDICATED THAT THE FREQUENCIES AND VIBRATION
INTENSITIES OF OAC GROUPS WERE SENSITIVE TO THE SPATIAL ORIENTATION.
ABSORPTION BANDS AT 600 AND 900CM PRIME NEGATIVE1 WERE ESP. SENSITIVE TO
A CHANGE IN THE RELATIVE ORIENTATION OF OAC GROUPS, A PROPERTY TO BE
UTILIZED FOR REFINED STRUCTURAL ANAL.

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TITLE--ON THE INVESTIGATION OF TWO NEW QUICK ACTING DEVELOPERS, PHENIDONE
AND METHYLPHENIDONE, USED IN SPECTRUM ANALYSIS -U-
AUTHOR--(03)-DIMITROV, G., PETRAKIEV, A., GAGOV, V.
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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEVELOPING CAPACITIES OF TWO TYPES OF DEVELOPERS, BASED ON PHENIDONE OR METHYLPHENIDONE AND HYDROQUINONE, HAVE BEEN STUDIED. THE RATIO BETWEEN THE COMPONENTS HAS BEEN SELECTED IN SUCH A MANNER THAT THE DEVELOPERS ARE QUICK ACTING, COMPARED WITH THOSE THAT ARE BROADLY USED IN PHOTOGRAPHIC PRACTICE. WHEN USED FOR THE PURPOSES OF SPECTRUM ANALYSIS, THEY PROVIDE GREATER DENSITY OF THE BLACKENING OF THE SPECTRUM LINES. FACILITY:
FIZICHESKI FAKULTET NA SOFIYSKIYA UNIVERSITET.

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